

is referred to as an “order umpire” or “oU” (see page 5, lines 20-26), while a trading program is referred to as an “order ELF” (electronic liquidity finder) or “oE” (see page 5, lines 15-19).

In this exemplary embodiment, an umpire publishes its rules and ELFs either agree to the umpire’s rules by registering with that umpire, or they do not register. Registration with an umpire is required before an ELF can avail itself of the services of the umpire. See page 5, lines 27-29. See also, Figure 15, step 330, which shows an ELF registering with an umpire.

An ELF may elect to join the “crowd” for an umpire. See Figure 28, step 706. A crowd of ELFs functions in a manner similar to a crowd of traders on a trading floor. Crowd members take priority behind orders in the umpire’s order book, but otherwise have the time/place immediacy advantage of being “on the floor” such as having an ability to bid on imbalances at a price and an ability to interact with one another. See e.g., page 5, line 30 to page 6, line 2.

An order ELF may register with an umpire for a market. However, it should be understood that an order ELF registering with an umpire is a different procedure than an order ELF registering in the crowd for an umpire. In any event, an ELF must register with an umpire to interact with the umpire in any way, including registering in the crowd for the umpire. See page 71, lines 19-21.

At pages 117-118, the present application provides exemplary use cases in which an order umpire with an order book also has a “crowd” of order ELFs registered therewith. See also the sections titled “Service: Crowd auction during discovery” and “Service: Crowd auction during execution” on page 30, lines 4-27.

In view of the substantial disclosure provided in the specification, applicant submits that the claim term “crowd,” as recited in Claim 4 and implicitly recited in Claims 3 and 5, is definite to one having ordinary skill in the art having read the specification of the present application.

Applicant notes that Claim 3 does not explicitly use the term “crowd.” Instead, Claim 3 depends on Claim 1 and states that “the automatically providing and requesting [actions defined in Claim 1] are performed by a trading process.” The Office Action did not reject Claim 1 under Section 112, thus implicitly acknowledging that the term “crowd” is definite in the context of Claim 1. Nothing in Claim 3 is believed to render the claim term “crowd” indefinite where the term is already definite in Claim 1.

Claim 5 also does not explicitly use the term “crowd.” Instead, Claim 5 depends on Claim 4 and states that “the determining [action defined in Claim 4] is in accordance with an order processing methodology.” In view of the specification in the present application, as discussed above, the term “crowd” is definite in the context of Claim 4. Nothing in Claim 5 is believed to render the claim term “crowd” indefinite where the term is definite in Claim 4.

Applicant submits that Claims 3-5 are definite within the meaning of Section 112. The rejection of Claims 3-5 under Section 112 should be withdrawn.

#### Claims 1-22 and 24-30 Are Patentable Over The Prior Art

The Office Action rejected Claims 1-22 and 24-30 under 35 U.S.C. 102(e) as being anticipated by Hambrecht et al. (U.S. Patent No. 6,629,082).<sup>1</sup> Applicant respectfully traverses the claim rejections under Section 102. The Hambrecht reference does not provide disclosure that teaches or suggests all of the elements claimed in Claims 1-22 and 24-30.

In support of the rejection of Claims 1-18, 20-22, and 24-30, the Office Action cited a single passage in Hambrecht at Col. 11, line 35 to Col. 13, line 14. As for Claim 19, the Office Action cited the abstract; Col. 3, lines 50-65; and Col. 4, lines 5-40. Applicant has carefully studied these passages, and indeed the entire disclosure of Hambrecht, and does not find

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<sup>1</sup> The Office Action also rejected Claim 23 as being anticipated. However, Claim 23 was previously canceled. Applicant thus interprets the Section 102 rejection as extending to Claims 1-22 and 24-30.

disclosure that supports a *prima facie* case of anticipation of the present claims. To establish a *prima facie* rejection of a claim under Section 102, it is necessary that a single reference teach each and every element of the claim in the manner in which the elements are arranged in the claim. The disclosure of Hambrecht does not do this.

Hambrecht is directed to an auction system that is used for pricing and allocating equity securities. Information about an offering to accept bids for equity shares is provided to qualified potential purchasers and non-qualified potential purchasers. Bids from potential purchasers for equity shares are received through a communication network. Bids are accepted and offered to be accepted only from qualified potential purchasers. A non-qualified potential purchaser submits a bid through a qualified potential purchaser. A clearing price for the offered shares is determined based on the received bids.

According to Hambrecht, prospective investors who bid a price above the clearing price are allocated all of the shares for which they bid. Prospective investors who bid a price equal to the clearing price are allocated a pro-rata allocation of the shares for which they bid. No shares are allocated to prospective investors who bid a price below the clearing price.

#### Claims 1-3 Are Patentable Over Hambrecht

Claim 1 recites a method of facilitating trading, comprising:

automatically, via a computer, providing a price inquiry to a market process having an order file, the market process also having a crowd of trading processes registered therewith, and

automatically, via the computer, requesting that the market process notify its crowd of a price improvement opportunity.

The system 5 illustrated in Figure 1 is an example of the computer recited above. An instance of a “price inquiry” as claimed above is indicated by the “discover request” described at

page 117, line 11, while the “order book” at page 117 is an instance of the claimed “order file.” A crowd of trading processes is described, for example, at page 93, lines 3-7 and in Figure 79.

As to the second element of Claim 1, the “indication that oE 10 accepts auction mode” described at page 117, lines 12-13, serves as a request to notify the crowd of a price improvement opportunity. The indication teaches that if one of the registered order ELF's offers an improved price relative to the price that the market process would have provided based on its order book, oE 10 will take the improved price. See page 14, lines 9-17 and page 60, lines 15-17. If oE 10 did not have to take the improved price, then discover requests could be unfairly used to obtain information about non-public market liquidity in the crowd of registered trading processes.

Hambrecht fails to teach or suggest a market process also having a crowd of trading processes registered therewith, as recited in Claim 1. Hambrecht also fails to teach or suggest requesting that the market process notify its crowd of trading processes of a price improvement opportunity, as recited in Claim 1. Since Hambrecht does not teach these elements of Claim 1, a *prima facie* case of anticipation of Claim 1 has not been established. The claim rejection should be withdrawn.

Other than generally citing Col. 11, line 35 to Col. 13, line 14 of Hambrecht, the Office Action does not provide guidance as to which aspects of this disclosure in Hambrecht equates to the features in Claim 1. To the extent that the Office Action equates users operating the user terminals 104 in Hambrecht with either market processes or trading processes as claimed, applicant points out that the users are humans, not computer processes. In any event, Hambrecht does not disclose trading processes registered in a crowd, as claimed, which is distinct from registering for a market as previously discussed herein. Since the auction arrangement taught by Hambrecht does not include a crowd of registered trading processes, it follows that Hambrecht

also does not teach a process of providing anything, including a price improvement opportunity as claimed, to such a crowd of trading processes. Claim 1 is thus patentable over Hambrecht and should be allowed.

Claims 2-3 depend from Claim 1 and thus include the allowable subject matter of Claim 1. Claims 2-3 also recite elements including:

- further comprising trading at a price provided by the crowd; and
- wherein the automatically providing and requesting are performed by a trading process.

For their dependence on Claim 1 and for the additional subject matter they recite, Claims 2-3 are patentable over the cited art and should be allowed.

#### Claims 4-10 Are Patentable Over Hambrecht

Claim 4 recites a method of providing a crowd price, comprising:

automatically, via a computer, receiving notice at a trading process registered as being the crowd of a market process of an opportunity to improve upon a book price,

automatically, via the computer or another computer, determining whether to improve upon the book price, and

automatically, via the computer or the other computer, providing the crowd price that improves the book price when the determination is positive.

An example of the computer recited above is illustrated by the system 5 shown in Figure 1. For a description of “receiving notice at a trading process registered as being the crowd of a market process of an opportunity to improve upon a book price,” see page 93, lines 3-7, along with Figure 79; page 117, line 19; and page 118, line 26. The element of “determining

whether to improve upon the book price” is illustrated, for example, at page 117, lines 20-21 and page 118, lines 27-28. The element of “providing the crowd price that improves the book price when the determination is positive” is illustrated, for example, at page 117, line 22, and page 118, line 29.

Hambrecht fails to teach or suggest the foregoing elements of Claim 4, and thus does not anticipate Claim 4. Neither the claimed crowd of trading processes nor the claimed price improvement is shown in Hambrecht. Hambrecht further does not teach the claimed “book price.” Without further explanation, Hambrecht merely states that “the Auction server 126 executes an algorithm to determine the price of the offering.” Claim 4 should thus be allowed.

Claims 5-10 depend from Claim 4 and thus incorporate the allowable subject matter of Claim 4. Claims 5-10 also recite elements including:

- wherein the determining is in accordance with an order processing methodology;
- wherein the order processing methodology is represented in a decision table;
- wherein the determining includes requesting an instruction from a user;
- further comprising automatically registering as part of a crowd to receive the price improvement opportunity notice;
- wherein the automatically registering occurs with a market process; and
- wherein the automatically receiving notice, determining and providing a crowd price are performed by a trading process.

For their dependence on Claim 4 and for the additional subject matter they recite, Claims 5-10 are patentable over the cited art and should be allowed.

#### Claims 11-17 Are Patentable Over Hambrecht

Claim 11 recites a method of providing a crowd price, comprising:

automatically, via a computer, receiving notice at a trading process registered as being the crowd of a market process of a proposed pairing price,

automatically, via the computer or another computer, determining whether to improve upon the proposed pairing price, and

automatically, via the computer or the other computer, providing the crowd price that improves the proposed pairing price when the determination is positive.

As with Claim 4, embodiments illustrating the foregoing elements of Claim 11 are described in the specification, e.g., at page 93, lines 3-7 and Figure 79; page 117, lines 19-22; and page 118, lines 26-29.

Hambrecht fails to teach or suggest the foregoing elements of Claim 11, and thus does not anticipate Claim 11. Neither the claimed crowd of trading processes nor the claimed price improvement is shown in Hambrecht. Claim 11 should thus be allowed.

Claims 12-17 depend from Claim 11 and thus incorporate the allowable subject matter of Claim 11. Claims 12-17 further recite elements including:

- wherein the determining is in accordance with an order processing methodology;
- wherein the order processing methodology is represented in a decision table;
- wherein the determining includes requesting an instruction from a user;
- further comprising automatically registering as part of a crowd to receive the proposed pairing price notice;
- wherein the automatically registering occurs with a market process; and
- wherein the automatically receiving notice, determining and providing a crowd price are performed by a trading process.

For their dependence on Claim 11 and for the additional subject matter they recite, Claims 12-17 are patentable over the cited art and should be allowed.

Claims 18-22 Are Patentable Over Hambrecht

Claim 18 recites a method of providing price discovery, comprising:

automatically, via a computer, notifying a crowd of trading processes registered with a market process of an opportunity to improve upon a book price,

automatically, via the computer or another computer, receiving a crowd price from the crowd, and

automatically, via the computer or the other computer, providing the crowd price as a response when the crowd price is better than the book price.

Claim 18 is from the viewpoint of a market process that interacts with a plurality of trading processes, and is directed to price discovery.

The recitation of “automatically, via a computer, notifying a crowd of trading processes registered with a market process of an opportunity to improve upon a book price” is disclosed, for example, at page 93, lines 3-7 and Figure 79, and page 118, lines 21-22, with the computer being illustrated, for example, by the system 5 shown in Figure 1. The recitation of “automatically, via the computer or another computer, receiving a crowd price from the crowd” is disclosed, for example, at page 118, lines 29-30, while page 118, lines 30-31 illustrate an example of “providing the crowd price as a response when the crowd price is better than the book price,” as claimed in Claim 18.

As with the other claims in the present application, the Office Action does not provide specific guidance as to where the elements of Claim 18 are found in Hambrecht. The Office



Action merely copies the claim language and generally alleges that the claim elements are found at Col. 11, line 35 to Col. 13, line 14. Applicant has carefully reviewed this section of Hambrecht, and indeed the entire Hambrecht reference, and does not find anticipating disclosure. Hambrecht fails to teach or suggest a crowd of trading processes registered with a market process, as recited in Claim 18. Hambrecht also fails to teach or suggest notifying a crowd of trading processes of an opportunity to improve upon a book price, as claimed. Further, Hambrecht fails to teach or suggest receiving a crowd price from the crowd, and providing the crowd price as a response when the crowd price is better than the book price, as claimed. Since Hambrecht does not teach all the elements recited in Claim 18, a *prima facie* case of anticipation has not been established. Claim 18 should thus be allowed.

Claims 19-22 depend from Claim 18 and thus incorporate the allowable subject matter of Claim 18. Claims 19-22 further recite elements including:

- wherein the automatically providing occurs in response to a price inquiry according to a published delay time;
- wherein when the crowd price is provided as a response, a pairing must occur;
- further comprising receiving a price inquiry specifying that the response to the price inquiry should occur after automatically notifying the crowd of the price improvement opportunity; and
- wherein the automatically notifying, receiving and providing are performed by a market process.

As for Claim 19, the Office Action cited the abstract; Col. 3, lines 50-65; and Col. 4, lines 5-40. Applicant has studied these passages, and does not find anticipating disclosure as alleged. For their dependence on Claim 18 and for the additional subject matter they recite, Claims 19-22 are patentable over the cited art and should be allowed.

Claims 24-30 Are Patentable Over Hambrecht

Claim 24 recites a method of facilitating trading, comprising:

automatically, via a computer, notifying a crowd of trading processes registered with a market process of a proposed pairing price,  
automatically, via the computer or another computer, receiving a crowd price from the crowd, and  
automatically, via the computer or the other computer, pairing with the crowd price when the crowd price is better than the proposed pairing price.

Like Claim 18, Claim 24 is from the viewpoint of a market process that interacts with a plurality of trading processes. However, Claim 24 is directed trading.

The recitation of "automatically, via a computer, notifying a crowd of trading processes registered with a market process of a proposed pairing price" is disclosed, for example, at page 93, lines 3-7 and Figure 79, and page 117, line 18, with the computer being illustrated, for example, by the system 5 shown in Figure 1. The recitation of "automatically, via the computer or another computer, receiving a crowd price from the crowd" is disclosed, for example, at page 117, line 22, while page 117, lines 23-24 illustrate an example of "pairing with the crowd price when the crowd price is better than the proposed pairing price," as claimed in Claim 24.

As with Claim 18 and the other claims in the present application, the Office Action fails to provide specific guidance as to where the elements of Claim 24 are found in Hambrecht. The Office Action merely copies the claim language and generally alleges that the claim elements are found at Col. 11, line 35 to Col. 13, line 14. Carefully review of this section demonstrates that Hambrecht does not provide anticipating disclosure. Hambrecht does not teach or suggest a crowd of trading processes registered with a market process, as recited in Claim 24. Hambrecht

also does not teach or suggest notifying a crowd of trading processes of a proposed pairing price, as claimed. Further, Hambrecht fails to teach or suggest receiving a crowd price from the crowd, and pairing with the crowd price when the crowd price is better than the proposed pairing price, as claimed. Hambrecht does not teach all the elements recited in Claim 24, and thus does not support a *prima facie* case of anticipation. Claim 24 should thus be allowed.

Claims 25-30 depend from Claim 24 and thus include the allowable subject matter of Claim 24. Claims 25-30 further recite the following elements:

- wherein the automatically pairing occurs according to a published delay time;
- wherein the published delay time is less than one second;
- wherein the published delay time is greater than one second;
- further comprising determining that a next pairing will be at the proposed pairing price different than a previous pairing price;
- wherein the proposed pairing price is the best price from a file of stored orders;
- and
- wherein the automatically notifying, receiving and pairing are performed by a market process.

For their dependence on Claim 24 and for the additional subject matter they recite, Claims 25-30 are patentable over the cited art and should be allowed.

### CONCLUSION

Applicant respectfully requests reconsideration and allowance of the present application. Applicant has carefully considered the Hambrecht reference as cited in the Office Action, and finds that Hambrecht does not anticipate the claims in the present application for the reasons discussed above. Absent a *prima facie* case of anticipation, the rejection of Claims 1-22 and 24-30 under Section 102 should be withdrawn and the claims allowed. Action to that end at an

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early date is requested. Should any issues remain needing resolution prior to allowance, the Examiner is invited to contact the undersigned counsel by telephone.

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